

Multi-Media Compliance Evaluation Inspection
USEPA Region III
Office of Enforcement, Compliance, and Environmental Justice

Pentagon Reservation
United States Department of Defense
425 Old Jefferson Davis Highway
Arlington, Virginia 22202

Inspection Dates: May 10, 2010 to May 12, 2010

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Background

The inspection of the Pentagon Reservation (Pentagon or the Facility) was conducted on May 10, 2010 through May 12, 2010, by the Environmental Protection Agency (EPA) Region III's Federal Facility Program housed in the Office of Enforcement, Compliance and Environmental Justice (OECEJ). OECEJ conducts a number of multi-media compliance inspections each year at Federal Facilities located within Region III.

The Facility was chosen for a multi-media inspection based on a regional initiative focused on federal facilities located within the Chesapeake Bay Watershed. In addition, OECEJ considered the Facility's past compliance history, sensitive areas and environmental risk factors associated with the Facility, and the fact that OECEJ had not conducted an inspection at the Facility within the past five years as part of the decision to inspect the Facility.

Prior to conducting the inspection of the Pentagon, OECEJ staff visited the Virginia Department of Environmental Quality's (VADEQ) Northern Regional Office located in Woodbridge, Virginia, to discuss the upcoming multi-media inspection with State personnel, review their files, and gather information regarding the subject facility. VADEQ personnel were invited to participate during the inspection; however, due to scheduling conflicts, no VADEQ representatives were able to participate during the multi-media inspection.

The Pentagon was notified by telephone of the impending inspection on Wednesday, May 5, 2010, by Mr. José Jiménez, EPA Region 3 Federal Facility Coordinator. Subsequent to the initial notification by telephone, an official notification letter and a request for records/documents that the EPA requested to be made available at the time of the inspection were forwarded by email to the Facility (See Attachment No. 1).

The objective of this multi-media inspection was to assess the Facility's overall compliance with environmental regulations. The scope of the inspection included:

- Clean Water Act (CWA). This portion of the inspection focused on a facility's National Pollutant Discharge Elimination System (NPDES) permit, pretreatment, and storm water.
- Clean Air Act (CAA). This inspection focused on the pollution control measures in place at a facility, along with its Title V permit, and ozone depleting substance requirements.
- Resource Conservation and Recovery Act (RCRA). This portion of the inspection focused on the hazardous waste and underground storage tank management (RCRA-C and RCRA-I).

- Spill Prevention, Control and Countermeasures (SPCC). This part of the inspection looked at a facility's plan with regards to underground and above ground oil storage management.

As part of the inspection, the inspectors interviewed Facility personnel and reviewed records associated with each program.

Facility Description

The Facility consists of approximately 280 acres of Department of Defense property (DoD). The Facility includes the following: the main Pentagon building, Modular Office Complex, Heating and Refrigeration Plant (HRP), Incineration Plant, Federal Office Building #2 (FOB 2), parking lots, and green areas. The primary use of the main Pentagon building is government office space. The main Pentagon building covers approximately 34 acres, has 6.6 million gross square feet of space, and has approximately 23,000 employees working inside.

Opening Conference

EPA inspectors, along with contractor Mr. David Lipiro, arrived at the Facility on May 10, 2010 to meet with Facility representatives. At approximately 11:55 a.m., the EPA inspectors and Mr. Lipiro conducted an opening conference with Mr. Joseph Eichenlaub, SEMB Environmental Manager, along with representatives from other programs throughout the Facility. At this time, the EPA inspectors presented their credentials as authorized representatives of the agency to Mr. Eichenlaub. The EPA inspectors provided an overview of the inspection to the Facility personnel, including aspects of why the Facility was selected for inspection. The EPA inspectors also informed the Facility that the inspection would conclude with a close out conference, which would provide an overview of potential areas of concern found during the inspection.

Technical Reports

Resource Conservation and Recovery Act - Hazardous Waste

The following observations are for the RCRA-C hazardous waste inspection of the Pentagon.

The EPA inspector, Justin Young, arrived at the Facility on May 10, 2010. Mr. Young presented his credentials to Joe Eichenlaub and Bob Klugiewicz, as an Environmental Protection Specialist and authorized representative of EPA. Mr. Klugiewicz escorted the EPA inspector during the site visits of the Facility.

Process Description

The major process conducted at the Pentagon is the changing out of lighting throughout the Facility, along with miscellaneous painting. These processes are conducted on a daily basis. The used light bulbs and paints are collected and stored at the Facility's main hazardous waste storage area at the Remote Delivery Facility building (RDF). There are two dental clinics located on the Facility's property (4th floor clinic and the tri-service clinic). These clinics generate multiple waste streams: waste amalgam, x-ray fixer and lead foil. The Facility also has a laboratory and firing range located on the premises that have satellite accumulation points.

Permit Status

The Facility notified as a Large Quantity Generator (LQG) of hazardous waste, thus subject to the less than 90-day hazardous waste generator standards. The Facility is not permitted to treat or dispose of hazardous waste. The Facility is a small quantity generator of universal waste.

Hazardous Waste, Universal Waste and Used Oil Generation

Hazardous Waste Generation

- Paints, Lacquers, Stains, etc – The Facility generates hazardous waste from its painting operations throughout the Facility. Paints that are no longer needed, or old inventory, are collected at a satellite accumulation point in the paint shop before transporting them to the less than 90-day hazardous waste storage area to be sent off as hazardous waste.
- Aerosol Cans – The Facility generates waste from the use of aerosol cans. The cans are collected at the satellite accumulation point in the paint room, and then transferred over to the less than 90-day main hazardous waste storage area for disposal as hazardous waste.

- Paint Thinner – In the painting booth, paint thinner is used for cleaning operations. The thinner that can no longer be used for cleaning is placed into a 55-gallon hazardous waste drum in the satellite accumulation point in the paint room, before being transported to the less than 90-day main hazardous waste storage area for disposal.
- Solvent Contaminated Rags - In the painting booth, thinner is used for cleaning operations. Rags are used to clean up and when the rags can no longer be used for cleaning they are placed into a 55-gallon hazardous waste drum in the satellite accumulation point in the paint room, before being transported to the less than 90-day main hazardous waste storage area for disposal.
- Dental Amalgam, Lead Foil, and X-ray Fixer – Located in the Tri-service dental clinic, the Facility generates hazardous waste amalgam from patient treatment, as well as x-ray fixer. The clinic also generates and collects lead foil.

Universal Waste Generation - The Facility generates used fluorescent lamps and batteries on site. The used lamps and batteries are stored in the less than 90-day main hazardous waste site. The Facility also collects and stores universal waste in the dental clinic (Room 336)

Used Oil Generation - The Facility generates used oil.

Inspection Observations

Less than 90-day Hazardous Waste Accumulation Area

The Facility has an area within the remote delivery facility (RDF) building where it stores hazardous waste before being shipped off site for disposal. The Facility contracts out the handling of waste to Bishop Inc. During the inspection, Mr. Young met with Mr. Dave Mundt and Mr. Thomas Harris, both of whom represent Bishop Inc.

The storage area consisted of two main bays (Bay 5 and 6). On May 10, 2010, Mr. Young visited the less than 90-day hazardous waste storage area with Bob Klugiewicz, an Environmental Protection Specialist representing the Facility. During the initial visit to the less than 90-day hazardous waste and universal waste storage areas, Mr. Klugiewicz stated he did not have the key to access the area. The inspector was able to view through the cages and see that the Facility was storing universal waste lamps and batteries. Mr. Young was unable to access the inside of the cage; however he was able to observe the boxes from where he stood. Based on the shape of the boxes and information provided by the Facility, he estimated that there were approximately 23 boxes of used lamps which were being stored, none of which had an accumulation start date on the box. There was a large cardboard box collecting universal waste lamps that did not have a closed lid. There were no lamps being added to this box at the time of this observation.

Mr. Young revisited the less than 90-day hazardous waste and universal waste storage areas again on May 11, 2010, because the field contractor for Bishop Inc., Mr. Mundt was available. Upon meeting Mr. Mundt, he stated the gates to the main storage area were never locked. Mr. Mundt stated the basic process of collecting waste is a combination of Bishop Inc. going out and collecting waste from the Facility along with Facility personnel, and other contractors bringing in waste for disposal. With this system in place, sometimes waste is brought in after hours and just left at the storage area. This type of collection process is why the Facility had a large cardboard box with an open top of universal waste.

After this brief explanation of the waste collection process, Mr. Young proceeded to observe the cage area that collects the universal waste. During this time, there were 32 boxes of universal waste lamps which did not have start accumulation dates on the containers. There were two lamps sitting in a large cardboard container that was open and unlabeled. Along with these lamps, there were used lead acid batteries bound together sitting on a wooden pallet. There was a label of universal waste on the bundle of batteries, but there was no start accumulation date on the batteries. After explaining to the Facility the need for a start accumulation date on each container, Mr. Mundt stated they have an on-site inventory for the waste. Mr. Mundt stated the count is based on the pallets not each container of universal waste. Mr. Mundt stated that the on-site inventory tracked the waste on the basis of pallets and did not track each individual item of universal waste that was received.

On May 11, 2010, Mr. Young visited the less than 90-day hazardous waste and proceeded to the other caged area which had three main Bays (1, 2, and 3). Listed below are the contents of each bay at the time of inspection:

- Bay #1 – There was a 20-gallon container with a hazardous waste sticker labeled used weapons cleaning solution, which was dated 5/5/2010. There were also two clear plastic bags of hazardous waste weapons cleaning debris and lead aprons. Both bags were affixed with hazardous waste labels and a start accumulation date of 5/6/2010 and 5/7/2010 respectively. The container and plastic bags were closed. (See RCRA-C photo #7, #8)
- Bay #2 – There was an epoxy waste with a hazardous waste sticker labeled adhesive basic and with a start accumulation date of 4/15/2010. There was a cardboard box of lithium batteries with a universal waste sticker, but it did not have a start accumulation date on the container. There was a tracking and shipping document that showed the container came in on 4/14/2010. A bag of alkaline batteries had a universal waste label and start date of 4/14/2010. Freon was also located in this bay. There was a cylinder of R-134a with a date of 5/4/2010, along with a cylinder of R414B with a date of 4/30/2010. There were also two boxes of CFC-113 that had a hazardous materials label with a date of 4/27/2010, (See RCRA-C photos #9, #10).

- Bay#3 – There was a large clear plastic bag with a hazardous waste sticker with a start accumulation date of 5/7/2010, which held rags contaminated with paint thinner. The plastic bag was closed by means of wrapping duck tape around the opening of the plastic bag. Mr. Young was unable to confirm the VOC concentration of the rags. Along with the plastic bag, there was a can of flammable adhesive with a hazardous waste sticker and start accumulation date of 4/27/2010. There was also a milk carton with multiple aerosol cans. The milk carton itself had a hazardous waste label with a start accumulation date of 4/20/2010, but each aerosol container was not individually labeled.

On May 12, 2010, Mr. Young went back to less than 90-day hazardous waste and universal waste storage areas to take photographs. The large cardboard box which had an open top and no start accumulation date was now closed with a start accumulation date of 4/15/2010, (See RCRA-C photo #1). Along with this large cardboard box, the Facility now labeled and closed all of the remaining cardboard boxes. A date of 4/15/2010, was put on each cardboard box (See RCRA-C photos #2, #3, #4, #5). The Facility also wrote a start accumulation date of 5/10/2010, for the bundle of batteries (See RCRA-C photo #6). Also, Mr. Young went back and took photos of the bay. At that time, the Facility added containers of paint. Each container had a hazardous waste sticker, (See RCRA-C photos #11, #12).

The cage entrance which allowed access to the three bays had a “NO SMOKING” sign along with a DANGER sign. An inventory list and emergency contact numbers were also posted on the cage, (See RCRA-C photo #13).

Paint Shop (Room # RDF1J68)

On May 10, 2010, Mr. Young visited the Paint Shop. This room is the paint shop for Facility maintenance. Mr. Young asked what types of processes were conducted in this room. Mr. Klugiewicz stated this room was dedicated for painting. Most of the painting done in this area was for signage throughout the Facility. Along with signage painting, maintenance workers went out and use paints and aerosol cans for some basic Facility upkeep. The paints and aerosol cans were then brought back to the paint shop and stored for use at a later date or discarded in the satellite accumulation area within the paint shop. There was an enclosed paint booth located in the room. This area was run by Mr. Eugene Barton, stated to be the primary painter. During the inspection of the paint booth, Mr. Young saw a container of used rags which did not have any type of markings or labels and did not have a lid, (See RCRA-C photo #14). Mr. Young asked what was done with the rags. Mr. Klugiewicz stated that after Mr. Barton was done with his daily work, the rags were taken over to the satellite accumulation area and put into a 55 gallon drum. At the time of this observation, Mr. Barton was not on-site and no work was being conducted in the paint booth. Mr. Klugiewicz stated that the rags had been there since Mr. Barton last used the paint shop the prior Thursday. Mr. Young observed three metal flammable cabinets containing paints, lacquers, stains, aerosol cans, and thinners, (See RCRA-C photos #15, #16, #17). The contents appeared to be used, so

the EPA inspector asked Mr. Klugiewicz if the content of these cabinets were still product. Mr. Klugiewicz stated he was not sure about the condition of the contents.

A satellite accumulation area was located in the paint room, against the wall just left of the incoming and exit door to the paint room, (See RCRA-C photo #18). Mr. Klugiewicz stated that the contractor, Bishop Inc., did weekly rounds to look at the satellite accumulation areas. If a transfer from the satellite accumulation area to the main storage area was needed in-between this weekly inspections, Mr. Barton would contact Bishop Inc. for a clean out. During the inspection, Mr. Young observed two 55-gallon hazardous waste drums labeled used thinner and thinner rags. The thinner drum appeared to be empty based on the EPA inspector knocking on the drum, and according to Mr. Klugiewicz the 55-gallon drum containing was approximately half full, (See RCRA-C photo #19). Along with these drums, there were multiple smaller containers of waste, which were stated to be non hazardous latex paints. Some of them were opened at the time of the inspection. Upon review of the opened containers, some of the containers were empty and some contained residue. There was also a cardboard box located in the satellite accumulation area that was collecting the aerosol cans. Mr. Young observed the drums and containers which had contained waste were closed. The satellite accumulation area for this paint room appears to have the potential to store greater than 55 gallons of hazardous waste at one time.

Tri-Service Dental Clinic

Located on the Facility premises is Tri-Service dental clinic and special mission clinic (4th floor). Mr. Young was able to visit the Tri-Service clinic on May 11, 2010. Mr. Young was met by Mr. Ricky Blount, X-Ray technician and sterilization manager. The clinic had a dark room that housed a satellite accumulation area. Within the satellite accumulation area, there was a one-gallon plastic container with a hazardous waste sticker that read "Lead Foil," (See RCRA-C photo #20). Mr. Young observed inside the container noting it was approximately a quarter full. The container with the lead foil was closed. There was also a five-gallon plastic container with a hazardous waste sticker which read "X-Ray Fixer," (See RCRA-C photo #21). At the time of the inspection, there was no waste being stored in the container. This five-gallon container had a hose running from the X-ray film developing machine into the open topped waste container. In each of the patient rooms, there were four to eight ounce glass containers that said "Satellite Containers Turn in to Supply Each Month," (See RCRA-C photo #22). From this point, Mr. Blount stated those four to eight ounce glass containers were emptied into a two-gallon plastic container with a hazardous waste sticker labeled amalgams in Room 336, within the same hall. There was no start accumulation date on the plastic container. The clinic was treating this container in Room 336 as a satellite accumulation point. Within Room 336 there were also two other two-gallon containers which were labeled with hazardous waste stickers, and labels notated that they contained bulbs (compact fluorescent bulbs) and batteries. Mr. Blount stated they were not treating these as hazardous waste; they were treating the bulbs and batteries as universal waste. Upon arriving back at the dental clinic the next day to take photographs, the hazardous waste containers that were storing the batteries and lamps were relabeled with universal waste

stickers saying "Bulbs and Lamps". There was no start accumulation date on the containers, (See RCRA-C photo #23).

Facility Laboratory

The Facility stated they had a lab that produces hazardous waste methanol water. Mr. Klugiewicz stated there was a satellite accumulation point located in this lab. Mr. Young requested multiple times to access this section of the Facility, but Mr. Klugiewicz stated he was unable to contact the proper Facility representative for access to this area. Mr. Young was never able to observe the satellite accumulation point during the inspection.

Firing Range

The Facility has a firing range on premises. Mr. Klugiewicz stated that the range only used ceramic bullets. Mr. Klugiewicz also stated they manage the solvent used to clean the guns as hazardous waste. This solvent was treated as hazardous waste because personnel using the range may have used lead bullets at other ranges. According to Mr. Klugiewicz there was a satellite accumulation point located in the firing range. Again, Mr. Young requested to access the range multiple times, but Mr. Klugiewicz stated he was unable to contact the proper Facility representative for access to this area. Mr. Young was never able to observe the satellite accumulation point during the inspection.

Incinerator Building

Within the incinerator building, the Facility collected the ash produced and sent it out for disposal as solid waste. The Facility periodically wetted down the ash. This rinse of ash and water was collected in a tank. According to Mr. Klugiewicz or was it someone else?, the rinse was collected and once the tank was full this rinse was discharged to the public sanitary sewer system. Is the tank just piped to the sewers? Mr. Klugiewicz stated the Facility did not have a wastewater treatment facility onsite nor did the Facility currently have a NPDES or pretreatment permit specifically addressing the incineration process.

Records Review

Manifests and LDR

The Facility maintains manifest and LDR records for at least the past three years. All of the information is filled out according to the uniform hazardous waste manifest with signatures from the generator, transporter, and designated facility. Attached with the manifest is a supplemental report breaking down the contents of the manifest per waste. There is also a signed LDR and certification form (see RCRA-C attachment #1).

Weekly Inspection Checklist and Inventory

The Facility did weekly inspections of the 90-day hazardous waste storage area. The Facility had the weekly inspection list for at least the past 12 months from the date of the EPA inspection. The inspector requested a copy of the most recent and one from 12 months prior (see RCRA-C attachment #2). As mentioned earlier in the inspection report, Mr. Klugiewicz stated the Facility had an inventory log to keep track of the universal waste on-site. The log, at the time of the inspection, did not appear to coincide with the amount of universal waste Mr. Young observed during the inspection (see RCRA-C attachment #3, for copy of the log). [Is attachment 3 just the log, or a comparison of the log with what you saw? The log]

Training

Mr. Young reviewed the training records for the Facility. Dave Mundt, a field supervisor for the contractor Bishop Inc. had a folder with an operational description, along with a position description for the responsibilities and duties of a field supervisor. Mr. Mundt had taken the 40-hour HAZWOPPER training and an 8-hour refresher on 3/11/2010. Mr. Thomas Harris, who was a field specialist for Bishop Inc., had a folder with an operational description for a field specialist along with a position description for the responsibilities and duties of a field specialist. Along with this information, Mr. Harris had taken the 40-hour HAZWOPPER training, with an 8 hour refresher that expires on 3/3/2012, (See RCRA-C attachment #4). Bob Klugiewicz, the Facility representative, was signing the manifests as the generator but did not have any formal records of training associated with the handling of hazardous waste. Mr. Klugiewicz stated he took an online course from DEQ with regards to manifest training, but did not have any official certification documents, at the time of the inspection.

Biennial Report

The Facility had the most recent biennial report (see RCRA-C attachment #5).

Contingency Plan

The Facility maintains an integrated Spill Prevention and Response Plan, which encompasses aspects of a hazardous waste contingency plan. In a phone conversation on June 2, 2010, with Mr. Joe Eichenlaub, Mr. Young asked about arrangements and distribution of the plan with the local authorities. Mr. Eichenlaub stated the head of the Environmental Department is also the Fire Marshal for the Facility. Along with this, the Facility has made arrangements with the local authorities. The Facility also provides a walk through with the local fire department, on a monthly basis. The plan was last updated May of 2007.

Incinerator Ash/Quench Water

Mr. Young reviewed analysis conducted on the ash and quench water for years 2008 and 2009. Upon review of analytical tests, samples during 2008 done by the Facility, this rinsate tested using SM-4500H+B had a pH of 12.5. In 2009, analysis done on "incinerator 3" ash via method 9040B revealed the ash had a pH of 12.5. RCRA-C attachment #6 shows the analytical report for the year 2008 on the ash and effluent water the Facility provided during the inspection. Subsequent to the inspection, during a conference call with Joe Eichenlaub on June 2, 2010, Mr. Young asked for a detailed explanation of the process that generates the ash and rinsate. Mr. Joe Eichenlaub emailed Mr. Young information pertaining to the analysis of the ash from incinerator 3 for 2009 (see RCRA-C attachment #7) and the management/processing of ash residue at the Incinerator Plant (see RCRA-C attachment #8). Subsequent to the phone conversation on June 2, 2010, the Facility sent Mr. Young analytical results for the ash and quench water for 2010. The result of the pH for the ash based on method 9040B was 12.6 and the result of the quench water based on method SM4500-HB was 12.5 (See RCRA-C attachment #9).

Resource Conservation and Recovery Act – Underground Storage Tanks

EPA inspector Wilbur Martínez conducted the underground storage tank inspection. The information reviewed at the VADEQ Northern Regional Office in Woodbridge, VA, showed that the Pentagon had registered eleven (11) underground storage tanks (USTs) (Tanks 1 to 9, and Tanks PU-2 and PU-3), but only two of them (Tanks PU-2 and PU-3) are currently in use. According to correspondence in the VADEQ files, Tanks PU-2 and PU-3 were installed in 2001, but were registered in February 2008 as a result of a VADEQ UST inspection conducted at the Pentagon on November 15, 2007. During that inspection, the VADEQ also learned that Tanks 1 to 9 had either been removed or had been placed permanently out of use. The closure status of Tanks 1 to 9 was formally notified to VADEQ in February 2008, along with the registration for tanks PU-2 and PU-3. In a follow-up letter to the November 15, 2007 inspection findings (dated April 2, 2010) the Pentagon indicated that they were “unable to find any paperwork related to closure of the tanks including closure assessments or remediation reports.” Along with this letter, the Pentagon included an amendment registration for USTs that stated the date of closure of Tanks 1 to 9 as April 1, 2010; however, the amended registration failed to specify, with certainty, whether the tanks had been removed, closed in place, filled with inert material, or changed in service, since all of these options were marked.

The UST management portion of the multimedia inspection was conducted on May 11, 2010. The inspection included the review of the Pentagon’s UST files. This file review revealed that the Pentagon had conducted two UST surveys; one in 1990, conducted by Apex Environmental, Inc. (Attachment UST-1); and the other in 1992, conducted by H⁺GCL Environmental Sciences and Engineers (Attachment UST-2). Based on the information on these reports; the VADEQ UST registration database did not reflect:

- That two of the registered tanks, Tanks 1 and 6, had been replaced in 1972 and 1986, respectively;
- That Tanks 7, 8, and 9 were installed in 1978 to replace a previously existing 15,000-gallon gasoline tank that had leaked; and
- The existence of one 6,000-gallon kerosene tank (Tank 10), installed in 1988 and removed in 1997.

The file review also uncovered closure reports for three of the tanks listed as permanently out of use in the VADEQ UST registration database. The results of the file review are summarized in Table UST-1. Figure UST-1 shows the approximate current and former location of these tanks.

Inspection Observations

Tank System Description

The VADEQ UST database lists two 35,000-gallon USTs as currently active, PU-2 and PU-3, which store fuel for use in emergency power generators. According to the most recent Notification for Underground Storage Tanks submitted by the Pentagon (April 2, 2010), these tanks were installed in 2001 and store No. 2 Fuel Oil. According to information provided during the inspection, tanks PU-2 and PU-3 are constructed of double-wall steel, with a urethane outer coating (ACT-100U tanks). The tanks are filled through a fill pump system that pumps the fuel from the tanker truck to the tanks (see Figure 2 and Photographs UST-1 and UST-2). The tanks are installed mirroring one another, and there are six visible openings over each tank (see Figure UST-2). The first one corresponds to the sump housing the tank's fill pipe (unused) (see Photographs UST-2 to UST-6). The next two correspond to two sumps housing the fill pump system's tank level monitors (see Photographs UST-7 to UST-10). The fourth opening corresponds to the tank access sump housing the fill pump system's fill pipes and control valves (see Photographs UST-11 and UST-12). The fifth opening corresponds to the sump housing the tank's automatic tank gauge (ATG) system probe, as well as the vent pipe and fuel feed pipe to the emergency generators (see Photographs UST-13 and UST-14). The sixth opening corresponds to the sump housing the tank's interstitial-space monitoring probe (see Photographs UST-15 and UST-16). Fiberglass-reinforced plastic piping is used to transfer the fuel from the fill pump system to the tanks (see Photograph UST-17) and from the tanks to the emergency power generators via a suction system (see Photographs UST-13 and UST-14).

Tank Release Detection

These USTs store No. 2 fuel oil solely for use in emergency power generators and tank release detection requirements do not apply to these UST systems. Nevertheless, both USTs are monitored with an INCON Tank Sentinel TS-1001 ATG monitoring system (see Photograph UST-18). The ATG monitoring system is set up to measure the tanks' fuel level and to monitor the tanks' interstitial space, among other things (see Attachment UST-3). Although capable of performing leak detection tests on the tanks, the ATG has not been set up to do so. During the inspection, the ATG displayed the messages "system okay," "tank okay," and "sensor okay," indicating that the fuel level probes and interstitial sensors for the USTs were operational (see Photograph UST-18). The Pentagon, however, did not keep any ATG reports to document the monthly monitoring of the tanks' interstitial space. Attachment UST-4 provides an ATG monitoring system report printed by the EPA inspector that documents that the interstitial sensor for the USTs were operational at the time of the inspection. The ATG probe connections for PU-2 and PU-3 are shown in Photographs UST-13 and UST-14. The INCON Tank Sentinel TS-1001 operating manual was present at the Facility at the time of the inspection (see Photograph UST-19).

Piping Release Detection

The USTs store No. 2 fuel oil solely for use for emergency power generation and do not require piping release detection.

Spill/Overfill Protection

The tanks are filled through a fill pump system that pumps the fuel from the tanker truck to the tanks (see Figure 2 and Photographs UST-1 and UST-2). The pumps and fill pipe connection are installed inside a containment cabinet that offers spill containment capacity. The containment cabinet was dry at the time of the inspection.

To prevent overfilling, the fill pump system is equipped with an automatic fuel port alarm (audible and visual) in the system's control panel (see Photograph UST-2) that alerts the operator when each tank has reached 90% and 95% capacity. According to Pentagon personnel present during the inspection, the pumps would automatically shut-off after reaching the 95% tank capacity. The inspector could not test the fill pump system overfill alarm during the inspection because the system's control panel box lacked an alarm test button, and the only way to activate the alarm was to manually activate the float inside the corresponding tank compartment. No system specifications were made available at the time of the inspection to verify the alarm setup and pump shut-off settings. Also, it must be noted that the percent level gauge for the tank identified as Tank 1 in the control panel read 165.4 percent at the time of the inspection and that no explanation was provided by the Pentagon personnel for this reading.

Corrosion Protection

According to information provided during the inspection, both USTs are constructed of double-wall steel, with a urethane outer coating (ACT-100U tanks) that provides corrosion protection. Flexible plastic or fiberglass piping, that does not require corrosion protection, is used to transfer the fuel to the emergency power generators.

Financial Responsibility

The Pentagon is a Federal government entity that is exempt from the requirements to demonstrate financial responsibility for taking corrective action and for compensating third parties for bodily injury and property damage caused by accidental releases arising from the operation of petroleum USTs.

Clean Air Act Compliance Evaluation Inspection

Overview

This portion of the inspection was conducted by David Lipiro. Operation and maintenance activities regulated under the Clean Air Act at the Pentagon fall within two broad source categories: emission units (such as boilers and diesel generators) subject to requirements imposed under the Federally enforceable provisions of VADEQ air permits, and cooling systems employing refrigerants classified as ozone depleting substances (ODS). Each of these will be addressed separately in this report. Documents included as attachments are labeled sequentially and indicated in brackets; e.g., [CAA-1]. Only documents relating to potential compliance concerns are included in report attachments.

Current Applicability and Permit Status

The current Pentagon permit was issued by VADEQ as Registration #70030 on 10/23/2009. It covers the following sources:

- Six boilers located at the Heating and Refrigeration plant (HRP), each rated at 50 MMBTU/hr, fired by natural gas or #2 fuel oil.
- Two #2 fuel oil storage tanks at the HRP, each 300,000 gallons capacity.
- Two dual-chambered classified waste incinerators fired by natural gas or #2 fuel oil.
- Nine Caterpillar 3515B diesel generator sets at the Remote Delivery Facility (RDF), each rated at 2000 KW.
- One Cummins QSK7B-G6 diesel generator set, rated at 2790 KW at Federal Office Building 2 (FOB2).
- Two 12.4 MMBTU/hr and one 6.25 MMBTU/hr boilers, each fired by natural gas or #2 oil and equipped with low-NOx burners.

The permitting status of the Pentagon is uncertain. The current permit [CAA-1] was issued as a minor amendment to (and completely superseding) a "Minor New Source Review" (Minor NSR) permit that was issued 1/16/2008. This original Minor NSR Permit replaced the Facility Title V permit issued 9/10/2003, which expired 9/10/2008. A copy of the original NSR permit was not available at the time of the inspection, and it was not clear whether provisions of the Title V permit not covered in the original NSR permit were covered under any other permit. The Facility continues to file Title V compliance certifications against the original permit, but including the sources at FOB2.

The inspection team decided to proceed as follows. For operating sources with permit terms removed from the Title V permit, information gathered and observations made will be presented in this report to document conditions onsite. For current permit conditions unchanged since January 2007 (the beginning of the compliance evaluation period), conformance will be evaluated from that date forward. For other current permit conditions, conformance will be evaluated from the effective date of that permit forward.

Previous Compliance Inspections and Related Enforcement Actions

On 3/2/2010, William Gillespie, of VADEQ NRO, inspected the Facility. A report was issued 6/3/2010, and is included as attachment CAA-7. From that report, the history of compliance is as follows:

- On October 16, 2007, DEQ-NRO issued a Warning Letter to the Pentagon for failing to submit a complete and legible Semi-Annual Fuel Report for the period from January 1 through June 30, 2007. On January 9, 2008, the Pentagon submitted a revised Semi-Annual Fuel Report. The revised report resolved the Warning Letter.
- On October 17, 2007, DEQ-NRO issued a Warning Letter to the Pentagon in response to notification from the Pentagon that three new boilers had been delivered on-site before the Pentagon had applied for a permit modification. On January 16, 2008, DEQ issued the existing minor NSR permit which resolved the Warning Letter.

There was no enforcement action listed in that report. However, based on that report, VADEQ issued a Notice of Violation (NOV) on 6/17/2010, to the Pentagon.

Permit Source Records Reviewed and Related Observations

The following reports and records were requested and reviewed if available:

1. Excel workbooks (linked spreadsheets) documenting operating times and fuel usage for the boilers at HRP and FOB2.
2. Annual emission reports and associated calculations for 2007-2009.
3. Semiannual fuel quality reports for the same period. Note: the same fuel is delivered for use at the RDF, HRP, and FOB2.
4. A copy of the most recent fuel specification for deliveries at the Pentagon and HRP [CAA-3a] and FOB2 [CAA-3b].

5. Annual Compliance Certification for 2007 (2008 and 2009 certifications were also provided, but were not required under the current permit).
6. Records documenting dimensions and volume calculations on the two 300,000 fuel oil tanks at HRP (not available).
7. HRP Boiler operating procedures and schedule (in Maximo work order tracking system).
8. HRP Boiler operator training certificates.
9. Throughput and fuel usage records on the incinerators.
10. Secondary chamber temperature readouts (strip charts) for the incinerators.
11. Weigh scale calibration records at the incinerators (not available - see below).
12. Summary and detail operating logs for the RDF generators [CAA-4] and the permitted diesel generator at FOB2 [CAA-5].
13. Training records for generator maintenance at FOB2.
14. Initial notifications for the boilers at FOB2, documenting commencement of construction, startup [CAA-6] and anticipated performance testing. Note - testing has not yet been done, so test results are not available.
15. VADEQ report dated 6/3/2010 of inspection on 3/2/2010 [CAA-7].
16. VADEQ report dated 6/3/2010 of follow-up inspection on 5/18/2010 [CAA-8].
17. VADEQ Notice of Violation dated 6/17/2010 to the Pentagon [CAA-9].

Incinerator Weigh Scale Calibration

The current permit (II.10) requires that weigh scale calibration records be kept for the incinerators. Mr. Krumpos stated that such records could not be provided, because the scales are electronically calibrated automatically every day. The VADEQ report noted that the scale manual includes a calibration procedure, and that the scale manufacturer recommended an annual calibration against known weights.

Rolling 12-Month Recordkeeping for Permitted Units

The permit requires that the following records be kept:

- A rolling 12-month record of aggregate operating hours across all RDF generators.
- A rolling 12-month summation of aggregate gas usage and aggregate oil usage across all HRP.
- A rolling 12-month summation of aggregate gas usage and aggregate oil usage across all FOB2 boilers.
- A rolling 12-month summation of operating hours at the permitted generator at FOB2.

The Facility keeps these aggregate records on a calendar year basis only, meaning the required rolling totals are only calculated for December each year. However, note that the inspected records do indicate there would not have been exceeded regulatory requirements of any operating limit for any 12-month span during the inspection period. For that reason, VADEQ does not consider this to be a recordkeeping deviation (per phone conversation with W. Gillespie).

Bulk Oil Tank Volume Records

The current permit (I.14) requires that for each of the two bulk oil tanks at HRP, the Facility must keep readily accessible records showing tank dimensions and the calculated storage volume. No such records could be provided by the Facility during the inspection. However, we learned that this same issue had been raised by VADEQ during its inspection, and that acceptable calculations had been subsequently provided to Mr. Gillespie.

Semi-Annual Fuel Quality Reports

The current permit (I.9) requires that for the boilers at HRP, distillate oil certifications must be kept onsite and must include a statement that the oil complies with ASTM specifications D396-78, 89, 90, 92, 98 for #1 or #2 distillate fuel oil. Likewise, the permit requires diesel fuel certification against ASTM D975 for the RDF generators (III.6-7) and the FOB2 generator (IV.6-7). As seen in attached CAA-3a and b, this statement is not provided on current fuel certifications provided by the Facility. Note that ASTM standard D4294-90, cited in Item 3b, specifies the method of testing, not the quality of the oil.

The Boilers at FOB2 are permitted to burn natural gas, or distillate (#1 or #2) fuel oil meeting ASTM D396. The Facility has submitted semiannual fuel quality reports covering diesel oil for the generators, which must meet ASTM D975. The Facility has not installed service piping to fuel the boilers with oil. Given these facts, the fuel quality reports submitted for the diesel oil cannot satisfy the boiler fuel reporting requirement set forth in permit condition V.7. The VADEQ NOV cited failure to submit these reports as a deviation.

Facility Wide Certifications

Emission statements, semiannual fuel certifications, and Title V compliance certifications (while that permit was in force) all are required under 9 VAC 5-20-230 to be certified for completeness and accuracy by a Responsible Official (RO) of the Facility. For Federal facilities, the RO is specified as *"either a principal executive officer or ranking elected official. A principal executive officer of a Federal agency includes the chief executive officer having responsibility for the overall operations of the principal geographic unit of the agency."*

Currently, such reports are being signed by Joseph Eichenlaub, whose title is Environmental Manager.

FOB2 Initial Boiler Notifications

For the new boilers at FOB2, the permit requires the Pentagon to send initial notifications of the dates of construction completion and startup to VADEQ, with copies sent to EPA Region 3. Mr. Lipiro asked for the latter copies and they were not provided to the inspector. Moreover, the Pentagon failed to note in either letter that it had opted not to complete construction of the boilers as permitted - service piping to fuel the boilers with oil was not installed, so only natural gas could be used, whereas the permit allowed both fuels.

FOB2 Boiler Test

The current permit (V.12) requires a stack test for NOx emissions on one of the large boilers at FOB2 within 60 days after achieving maximum operating rate, but no later than 180 days after startup, unless an extension is requested and granted prior to that date. Per attachment CAA-4, boiler operation commenced on the week of April 20, 2008, yet the Facility has yet to perform this stack test, and did not request an extension. Sridhar Susarla stated that the Facility was in the process of scheduling a test. This issue was noted as a deviation in the VADEQ NOV. Mr. Gillespie confirmed by phone that VADEQ has not yet even received a test protocol, required no later than 30 days prior to testing.

VADEQ further noted that due to this failure to test, compliance with NOx emission rates could not be assured.

Operating, Maintenance and Training Records

The VADEQ NOV noted as a deviation that the Pentagon could not provide written operating procedures to minimize the duration and frequency of excess emissions for the boilers at HRP and FOB2 and the generators at RDF and FOB2. In addition, the associated training records could not be located. Mr. Lipiro was provided printouts from the Maximo work order system, and training certificates for maintenance personnel, which have been forwarded to VADEQ. Mr. Gillespie noted that such records had been requested many weeks prior.

Permit Fee for 2008

The VADEQ NOV noted as a deviation that the Pentagon has failed to pay Title V permit fees for calendar year 2008. VADEQ billed the Pentagon \$1,474.34 in August 2009. Based on an e-mail message from VADEQ, payment has not been received.

Facilities Inspected and Related Observations

Emission Sources at RDS

On 5/10/2010, the inspection team was escorted by Robert Klugiewicz to the RDS to observe the paint booth system, which was covered under the Title V permit but deleted from the current permit for reasons unknown. The system is still operational, though nothing was being painted during the inspection. It consists of an enclosed booth room fitted with a primary fabric filter at one end, tied to a separate secondary fabric filter in turn tied to the outside exhaust stack. The booth is reportedly used mostly for painting furniture - it is easily large enough to do so. Paint booth technician Robert Jones said the booth operates infrequently, and that the filters were replaced as needed. Since no current permit conditions apply to this source, records were not requested.

Later that day, Mr. Lipiro was escorted by Sridhar Susarla to meet Matt Morris, supervisor of the RDF diesel generator systems. He provided records for review, including a printout from the Maximo maintenance work order system used to track maintenance and log visibility readings. Note that the Pentagon is no longer required to perform visibility readings - that requirement of the Title V permit was eliminated from the current permit. The generators were not operating at the time, they appeared brand new.

Emission Sources at HRP

The inspection team was escorted on 5/11/2010, by Sridhar Susarla to meet HRP Manager William Birdsong and HRP Planner Victor Hankinson. Mr. Hankinson escorted us to the Boiler Room to observe the equipment. Boilers appeared to be installed as permitted. We met with Boiler Room Operator (USRO) Robert Koble and his supervisor

Gregory Parker. Both confirmed that the weekly visibility readings required in the Title V permit had not been done. However, since this condition was eliminated from the current permit, this issue will not be discussed further.

We also observed the two bulk diesel tanks, each labeled as containing 300,000 gallons. There was no evidence of any unusual conditions with respect to air emissions here.

Classified Waste Incinerators

The inspection team was escorted on 5/11/2010, by Sridhar Susarla to meet Robert Krumpos, Incineration Plant Manager and tour the Facility. There we also met Charles Newton, responsible for day-to-day operations. Records were collected to document compliance with permit conditions. The incinerators appeared to have been installed as permitted, and are operating well within current permit limits. Secondary chamber temperature charts were reviewed, along with a blank chart showing the temperature scale, and the instantaneous instrument panel readout. The readout for the primary chamber was also observed. Mr. Newton noted that the set point for secondary chamber temperature is 1650F, well above the required 1450F minimum.

Sources at FOB2

Mr. Lipiro was escorted by Sridhar Susarla on 5/12/2010, to FOB2 to meet managers there and observe operations. There we met Building Manager Steven Carter, QA Specialist George Smith, and Maintenance Manager James Kretsis, a contractor from Omni Corp., who provided requested documentation and described operations. We observed the three boilers, one of which was down for repairs. Mr. Carter noted that although the boilers are permitted to and capable of running on natural gas or fuel oil, no fuel oil storage or service piping has been installed because management has no intention of burning anything but gas.

We next observed the permitted diesel generator, a self-contained genset with integral fuel storage. Generator run logs were reviewed with maintenance mechanic Eric Sole. Mr. Sole noted that during his recent inspection Bill Gillespie requested that a log notation be made documenting the reason each time the generator was run, and showed this on a recent report. George Smith later provided an Acrobat pdf of 2008 and 2009 run records [CAA-6], which confirmed that the information requested by Mr. Gillespie was being kept.

Management of ODS Refrigerant Equipment

Current Applicability

The Facility is subject to the requirements of 40 CFR Part 82 governing management of refrigerants such as R-22, regulated under the CAA as a Class 2 Ozone Depleting Substance (ODS). Intentional release of any ODS (Class 1,2 or otherwise) is

prohibited, and maintenance of equipment containing Class 1 or Class 2 ODS can only be performed by certified operators using certified recovery equipment.

There are hundreds of ODS- containing “appliances” such as chillers, coolers, AC units or freezers located throughout the Pentagon. A written inventory of these units, including, location, serial number, refrigerant and normal charge is required.

Specific recordkeeping and maintenance requirements apply to those units with greater than 50 lbs charge of ODS. At HRP there are 10 chillers with 10,200 lb normal charge of R-22 each, which appear to be primarily in comfort cooling service. These units are hard-piped to each other and to three refrigerant recovery tank systems located in the basement below the chillers. In the Pentagon itself are 34 walk-in chillers/freezers with 300 lb normal charge of R-22 each, located at various food courts. These appear to be in commercial refrigeration service, and are operated by the tenant food court vendors.

Previous ODS Compliance Inspections and Related Enforcement Actions

There is no record of any inspection or enforcement action over Facility compliance with Federal ODS rules.

Records Reviewed and Related Observations

The following reports and records were requested and reviewed if available:

1. An undated inventory of refrigeration equipment, identifying serial number, location, refrigerant, normal charge, and indicating no loss or replacement of refrigerant “in last twelve months” for any unit [CAA-10]. Dated records were requested covering the inspection period, but were not provided.
2. Another inventory of small air conditioners, none containing more than 50 lb regulated refrigerant [CAA-11].
3. An undated listing of Non-ODS Refrigerant greenhouse gas (GHG) emissions based on default emission factors.
4. An undated listing of ODS Refrigerant GHG Emissions, including HRP chillers and all walk-in freezers, based on default emission factors.
5. Email dated 5/26/10 by William Birdsong explaining that requested leak rate data on individual HRP chillers could not be provided. [CAA-12]
6. An email dated 4/6/2010 by Jackie Seegars, giving total refrigerant purchases for the HRP chillers [CAA-13].

7. An Excel spreadsheet created 5/4/2010, calculating refrigerant loss rates for the HRP chillers [CAA-14].
8. An email dated 6/1/2010 from William Birdsong, indicating that no certifications of the three refrigerant recovery tanks could be found [CAA-15].

Between items 1, 2 and 4 above, all required equipment inventory information was being kept, except that the serial numbers of the large chillers were not recorded. Mr. Lipiro asked for service technician certificates and service records for the last three years. Service technician certificates were reviewed during and after the inspection. The service records were not provided to the inspector during or after the inspection.

Leak Rate Calculation and Required Maintenance

- Items 3 and 4 calculate refrigerant leak rates based upon apparent default factors used for GHG emission inventories, and cannot be used to assess conformance with applicable requirements here. Item 1 includes information on leak quantities for all but the HRP chillers. However, those numbers were estimated for GHG reporting as well. The required leak rate calculations have never been performed.

Refrigerant is purchased by HRP as needed to replenish the recovery tanks, and cannot be used to calculate leak rates for any individual chiller. The chillers are maintained by personnel of Central Tech Services (CTS – 1-866-300-3779), who may “top up” individual chillers as needed from any of the three recovery tanks or any other chiller, but do not keep records of the amount transferred. Hence, repair decisions for any chiller cannot have been made based on properly calculated leak rates.

Given all information provided (written and verbal), neither the Pentagon nor any of its contractors or tenants appear to be calculating leak rates on units with normal charge exceeding 50 pounds of ODS. Hence there is no system in place to assure that units exceeding leak rate thresholds (15% for HRP chillers, 35% for the smaller walk-in freezers in food service locations) are timely repaired.

The CTS email forwarded in Item 5 suggests that because the units are interconnected, they are one appliance under 40 CFR Part 82, a conclusion that has been adopted by the Pentagon, as Item 7 indicates.

- Even if the 10 cross-connected chillers were considered one appliance, leak rate recordkeeping would be inadequate. Within the inspection period, there was one R-22 purchase, for 10,000 lbs in August 2008. At that time, the leak rate should have been recalculated. Regardless of which method was used, the annualized or 12-month rolling loss would have been 10,000 lbs. at that time. In item 7, the loss rate across all chillers is calculated across the total months since the last receipt, rather than the 12 month maximum allowed under the annualizing calculation

cited above. Further, given that the leak rate spreadsheet was created almost two years after the last R-22 delivery, it is clear that leak rates have not been timely calculated.

- If R-22 replenishment had been recorded by chiller, it is possible that leaks requiring evacuation and repair would have been revealed during the inspection period. The 15% repair threshold corresponds to an annualized leak rate per HRP chiller of 1530 lbs. If six or fewer units were leaking, at least one of them would have exceeded the repair threshold in August 2008.
- For the food service tenant operations, no information on refrigerant management could be provided by the Pentagon.

Use of Properly Certified Recovery Equipment at HRP

Per Item 7, none of the three recovery systems at HRP has been certified for recovery of regulated refrigerants, as required under 40 CFR 158. There is no evidence that any other equipment has been used for recovery at HRP. There was no information provided on recovery equipment used on tenant operations.

Release of Refrigerant During Maintenance

Intentional release of R-22 is prohibited under 40 CFR 82. Appliances containing R-22 must be evacuated to recovery systems before being opened for repair. Per Item 5, no chiller has ever been fully evacuated. Given time constraints during the inspection, it was not possible to identify instances where maintenance of chiller components required R-22 evacuation, or to confirm that affected system components were evacuated as required before repair.

Facilities Inspected and Related Observations

Physical inspections focused on equipment at the HRP. On 5/11/2010, Mr. Lipiro was escorted by Planning Coordinator Victor Hankinson to view the chillers and recovery tanks. Nameplate information on each of the recovery tanks was unreadable at the time, blocked by a support strut, but later was found to include nothing of regulatory importance. There was nothing remarkable about the appearance of this equipment.

Clean Water Act

The following observations are for the Clean Water Act portion of the multi-media inspection, was conducted by Joe Reyna, Environmental Scientist.

Current Applicability and Permit Status

In Virginia, the Federal National Pollutant Discharge Elimination System (NPDES) delegation is split between various State departments including the Department of Conservation and Recreation (DCR) and VADEQ. DCR implements the Municipal Separate Storm Sewer System (MS4) and Construction Storm water NPDES programs, under the Virginia Stormwater Management Program (VSMP). VADEQ implements the Industrial Stormwater and Point Source NPDES programs, under the Virginia Pollution Discharge Elimination System (VDPES) program.

The Pentagon has two permits governing its wastewater discharges: an Industrial Wastewater Permit issued by VADEQ (Permit No. VA0032000) and a Municipal Separate Storm Sewer System (MS4) Permit issued by the Department of Conservation and Recreation (Permit No. VAR040103). The Pentagon's Industrial Wastewater Permit became effective October 03, 2005, and is set to expire October 02, 2010. The Pentagon's MS4 Permit became effective July 09, 2008, and is set to expire July 08, 2013.

The Pentagon used to have an Industrial User Pretreatment permit issued by Arlington County; however, in 2003, Arlington County released the Pentagon from their obligation to obtain permit coverage for their discharges into the Arlington County Sanitary Sewer Collection System. According to Pentagon personnel, they were no longer required to obtain permit coverage because their wastewater sampling laboratory analysis showed the Pentagon's wastewater to have low concentrations of parameters of concern. The Pentagon still continues to monitor their wastewater effluent discharged into the Arlington County Sanitary Sewer Collection System. The majority of the Pentagon's wastewater flow is domestic sewage.

Both the Industrial Wastewater and the MS4 permits listed were evaluated for compliance during the inspection.

VA0032000

The Pentagon's Industrial Wastewater Permit is specific for the discharges associated with the Pentagon Heating and Refrigeration Plant (HRP). The HRP provides steam for heating and chilled water for air conditioning to the Pentagon and Federal Office Building 2. The HRP houses chillers and boilers. Non-contact cooling water for HRP's processes is drawn from the Boundary Channel, (also known as the Pentagon Lagoon), pumped through screens and strainers (to remove debris) and is used for the

chiller condensers that are in operation throughout the year. Chemstar 505, a liquid copper corrosion inhibitor containing sodium tolyltriazole and sodium hydroxide, is added to the non-contact cooling water to mitigate the copper level in the discharge. Non-contact cooling water is then discharged into Roaches Run stream located near the Ronald Reagan National Airport.

Compliance History

The Pentagon has received 15 Notices of Violation (NOV) from VADEQ since April 2005, up until the date of the inspection. Nine of the NOV's were issued in 2005, one in 2006, two in 2007, one in 2008, and two in 2009. The NOV's were typically issued for effluent exceeding regulatory limits.

According to Facility personnel, the HRP used to have trouble meeting their Total Recoverable Copper limit due to copper piping within the HRP. The HRP has employed the use of Chemstar 505 to control the corrosion and leaching of copper from the copper pipes. The use of Chemstar 505 has helped the HRP to meet its Total Recoverable Copper limit of 34 ug/L. Facility personnel also stated the HRP has trouble meeting their effluent temperature requirements during the summer months. The HRP must keep their effluent temperature below 32 degrees Celsius. On the Facility's July 2008 Discharge Monitoring Report (DMR), the Facility reported 14 temperatures exceeding regulatory limits (see CWA Attachment #1).

Prior to the date of the inspection, the Pentagon's most recent NOV was issued on November 09, 2009. The NOV was issued because the Facility did not report a value for 2, 3, 7, 8-TDDC on their DMR for July through September 2009, the Facility's June 2009 DMR reported a pH value of 9.12 SU (the Facility's pH should be with the 6.0 to 9.0 SU range), and the Facility's June 2009 DMR reported a value of 32.2 degrees Celsius (see CWA Attachment #2).

On-Site Inspection

On May 11, 2010, at approximately 11:40am, a walk through of the HRP was conducted. Mr. Victor Hankinson, Facility Planner & Scheduler, assisted with the inspection. The walk through of the plant began at the computer control system. The computer control system showed how the HRP was set up and how the HRP was operating. The inspection continued through the HRP. The inspection followed the flow of the non-contact cooling water through the HRP. The screens, pipes, heating and refrigeration units, location where Chemstar 505 is introduced into the system, and sampling location were observed during the inspection. Upon review of the HRP, the Facility appeared to be operating under normal conditions. A HRP water flow diagram is attached to this report (see CWA Attachment #3).

VAR040103

The Pentagon has a General Permit for Stormwater Discharges from Small Municipal Separate Storm Sewer Systems (MS4) issued by the DCR. The Pentagon's MS4 program is managed by Washington Headquarters Services (WHS), Defense Facilities Directorate (DFD).

The purpose of the MS4 program is to ensure that pollutant discharges from small municipal separate storm sewer systems are reduced to the maximum extent practicable, protect water quality, and satisfy the appropriate water quality requirements of the Clean Water Act.

Operators of small MS4s are required to implement programs and practices to control polluted stormwater runoff from the jurisdiction serviced by the MS4. The operator must design its stormwater management program to satisfy applicable Clean Water Act water quality requirements and technology standards. The program must include the development and implementation of best management practices (BMPs) and measurable goals for the following six minimum measures, and include evaluation and reporting efforts: public education and outreach, public participation/involvement, illicit discharge detection and elimination, construction site runoff control, post-construction runoff control, and pollution prevention/good housekeeping for municipal operations.

The DFD has developed a MS4 Program Plan to address the requirements outlined in their General Permit for Storm water Discharges from Small MS4s. The Facility's MS4 Permit and their MS4 Program Plan are attached to this report (see CWA Attachments #4).

On-Site Inspection

The physical on-site storm water inspection was conducted on the grounds of the Incineration Plant and the HRP.

On May 11, 2010, at approximately 8:40 a.m., an entrance interview was conducted with Mr. Robert Krumpos, Plant Manager for the Incineration Plant, and Mr. Charles Newton, Operator. Mr. Krumpos explained the Plant's daily operation and the wastes the operation produces. According to Mr. Krumpos, the Facility's incineration process produces approximately 55,000 pounds of ash per month that is disposed of in a Municipal Landfill. The Incineration Plant also produces a wastewater from the quenching of hot ash. The quench water collects in a tank and when the tank fills with quench water, it is pumped to the Arlington County Sanitary Sewer Collection System.

A walk through of the Incineration Plant was performed to gain an understanding of the operation. After a walk through of the Incineration Plant, Mr. Reyna walked around the perimeter of the building. Upon review of the perimeter of the Incineration

Plant, an unknown pipe drain was observed outside the Compressor Room, near the paper loading area (see CWA Photographs 1-5). At the time of the inspection, the pipe was observed discharging liquid in the direction of a nearby storm water drain. Facility personnel were unable to determine the origin of the pipe, the contents of the pipe, or explain why the pipe existed. Upon further investigation, Facility personnel later discovered the unknown pipe in question was a domestic sewer pipe. According to Facility personnel, the pipe was immediately capped to prevent the escape of any additional sewage from the pipe.

Also during the walk around the perimeter of the Incineration Plant, a white powdery substance, similar to the incineration ash observed in the waste bins, was observed on the ground (see CWA Photographs 6-10). This area is used to collect incineration ash from the plant. The white powdery substance was observed on the pavement, on the grass and in and around storm water drains. The waste bins were also observed without lids and exposed to the environment. The Facility sent Mr. Reyna analytical results for the ash for 2010. The result of the pH for the ash based on method 9040B was 12.6 (see RCRA-C attachment #9).

Records Review

Upon reviewing MS4 Program Plan, it was observed that no documentation for training for storm water inspectors was maintained. According to the Facility's Plan, the DFD shall provide and document training for all storm water inspectors (see page 13 of their Plan). The Facility's Plan also did not include a recorded inspection schedule, maintenance agreement, and enforcement program for all constructed BMPs (as per Section II.B.5.b.4 of their Permit and page 15 of their Plan). The Facility's Plan also states the DFD shall develop and perform a self-evaluation checklist to document their program compliance, the appropriateness of the identified BMPs, and progress towards achieving their identified measureable goals annually (as per Section II.E of their Permit and page 18 of their Plan). A self-evaluation checklist was not observed during a review of the Facility's Plan.

Spill Prevention, Control and Countermeasure Requirements

The following observations are for the Spill Prevention, Control and Countermeasure portion of the multi-media inspection conducted by José Jiménez.

General Information

This section addresses compliance with the Spill Prevention, Control and Countermeasure (SPCC) regulations and preparation of a SPCC Plan. No permits are required or issued under the federal SPCC regulations. The CWA and the EPA's Oil Pollution Prevention Regulations require the preparation, certification and implementation of a SPCC Plan.

These regulations apply to any facility engaged in drilling, producing, gathering, storing, processing, refining, transferring or consuming oil and oil products, providing that all the following conditions are met: the facility is non-transportation related, the aboveground storage capacity of a single container is in excess of 660 gallons, or the aggregate aboveground storage capacity is greater than 1,320 gallons, or the total underground capacity is greater than 42,000 gallons, and due to the facility location, oil spilled at the facility could reasonably be expected to reach waters of the United States.

The Pentagon stores oil in various forms, primarily as heating oil. According to the Draft SPCC Plan (the draft plan), the Facility's aggregate above ground storage capacity is greater than 1,320 gallons. The Facility is located in the Potomac River Watershed, no more than a mile to Pentagon Lagoon, and based on satellite photos hydraulically connected to the Potomac River and the Chesapeake Bay.

Documents Reviewed and Inspection Observations

At the time of the inspection, Mr. Eichenlaub was asked about the SPCC plan, and the Facility only had a "draft plan" dated March 20, 2007. Despite repeating requests by EPA during the inspection, no additional plan was provided by the Facility. This draft plan did not have management approval, or a Professional Engineer (PE) certification. The draft plan is available electronically and includes the following facilities:

- Pentagon Heating and Refrigeration Plant
- Pentagon
- Hybla Valley Office Building
- Federal Office Building No.2 (FOB2)

- Motor Transport Directorate: Naval Exchange Gas Station
- U.S. Court of Appeals for Armed Forces

This draft plan (also known as Draft Spill Prevention and Response Plan) was updated in February 2008. According to page 11, a master copy of this plan is maintained at the Pentagon Technical Staff. Mr. Jiménez asked Mr. Eichenlaub for the master copy, but it was not shown to EPA inspectors at the time of the inspection. According to page 34, each facility has their own contact, and provides their own on-the-job training and annual spill prevention briefings. The Pentagon complex has a total oil storage capacity above 1,320 gallons in a number of aboveground tanks. Oil-filled transformers and 55-gallon containers were included in the draft plan. One PCB-contaminated transformer was identified in the draft plan. According to the draft plan, a tank integrity test is conducted every three years, and tank visual inspections.

Some general observations about the draft plans are: The draft plan must follow the sequence of 40 C.F.R. 112.7 or provide cross-references to the requirements in 40 C.F.R. Section 112.7. The draft plan needed to be certified by a professional engineer and receive management approval at a level of authority. The diagrams of the tank locations were present with the draft plan but tanks were not labeled on the diagram. Copy of the draft plan is maintained in the EPA Philadelphia office due to the size of the document.

Site Visit

On May 11, 2010, EPA representatives Joe Reyna, Dave Lipiro, Annie Skidmore, and José Jiménez met Mr. Susarla outside the Pentagon to visit the Pentagon Heating and Refrigeration Plant (HRP). Mr. Susarla is one of the Facility representatives. The EPA representatives arrived at the HRP around 8:30 a.m. and met Rob Krumpos. Mr. Krumpos is the incinerator plant manager and has been in this capacity for the last three years. Mr. Krumpos gave us an overview of this facility, then a building tour. A small tank was observed next to an emergency power generator outside the building. According to Mr. Krumpos, the tank is a doubled wall and was recently installed. The Facility did not provide more information. An above ground tank was observed in the basement, called PHRP Incinerator Day Tank (HRP-3), a 600-gallon tank containing fuel oil.

We visited the chemical storage area, a shed, and three 55-gallon containers were observed inside, one was empty and the other two containing used oil and new oil. Both containers were closed and labeled. According to Mr. Krumpos, inspections are done weekly, a binder had inspection forms from January 10 to May 2010. See Document No. SPPC 1, for an example of the inspection form.

Around 9:55 a.m., the EPA team moved to the HRP Building and met Victor Hankinson, the Facility Planner, then Bill Birdsong, the Plant Manager. The HRP Building provides heating and refrigeration to the Pentagon complex. Mr. Birdsong has been at this site for 27 years, Mr. Hankinson four years. Their organization is responsible for tanks HRP-1 and HRP-2.

We toured tanks HRP-1 and HRP-2, and the HRP unloading area with Abdul Siddiqui. Mr. Siddiqui has 23 years of experience working at the HRP. Based on the draft plan, the concrete berm at the HRP-1 and HRP-2 provides adequate containment. Each tank has its containment area. Also, the concrete berm for the HRP Unloading Area has the following dimensions 22.5'x10'x3.2', for a calculated containment volume of 5,385 gallons¹. The draft plan has specific measures² to reduce the probability of a spill and to contain the spill at the tanker truck loading area. Here are the specific measures:

1. Refueling operations will not be performed during a rain event. This will reduce the movement of any spill off-site.
2. Refueling operations shall require a minimum of two people. One in the vicinity of the tank being filled.
3. This person will signal the pump operator when the tank is 90% full.
4. The second operator will remain at the fueling truck shut-off valve.
5. No tanks will be filled to more than 90% capacity.
6. Drain covers will be installed over nearby drains prior to beginning refueling operations.
7. The fuel vendor is required to have drip pans and sorbent materials on the fuel truck, immediately accessible during refueling operations.

At the time of the inspection, no warning signs were observed at the area. Mr. Siddiqui was asked about the measures followed when unloading fuel and two measures were mentioned: the correct valve is opened to allow the fuel to be stored in the appropriate tank and the tank truck engine is shut off by the driver. The unloading containment area was observed and the berm is approximately 3 inches high, see Photo No. SPCC 1. An oil/water separator was observed in the unloading area, according to the draft plan, the capacity of this oil/water separator is 65 gallons. In case of release, the oil is pumped out and the water is sent to sanitary sewer.

Tanks HRP-1 and HRP-2 area was observed and the containment area is in good condition. Leaves were observed in one of the containment areas, but not enough to jeopardize the storage capacity of the area. The base of the tanks shows signs of

¹ Page 63 of "Draft Spill Prevention and Response Plan Pentagon Reservation"

² Section 5.1.3 of "Draft Spill Plan....."

corrosion. An oil line runs from the two tanks to the Incinerator Building to fire the incinerator, this oil line is known as the pipe chase. The pipe chase is underground and covered with a metal plate. Water was observed inside sections of the pipe chase. There was no evidence of inspections conducted by the Facility. Mr. Siddiqui was asked about tank inspections, and he stated that inspections are conducted, but no forms were available at the time of the inspection. No evidence of tank or pipe inspections at the HRP.

From this area, we went to the Chiller Plant. At the basement, the team observed approximately 35 55-gallon drums. These drums contained oil and used oil, based on the labels. Two of the used oil 55-gallon drums were opened and were not labeled by the Facility. Another drum was opened but appears to be new oil. This storage area is known, in the draft SPCC plan, as the HRP Basement HS Storage, with 30 55-gallon containers of new and used oil, see Photos No. SPCC 2-3. The area is next to a floor drain that is connected to a sanitary sewer system. A used lead-battery was observed on the floor, with no labels, see Photo No. SPCC 6. Two 55-gallon containers containing oil were opened at the time of the inspection, see Photos No. SPCC 4 and 5. According to Mr. Susarla, tank training will be offered on May 18 and 19. No evidence of previous tank training sessions conducted at the Facility.

We returned to the main building by 1:00 p.m. and continued the inspection at 2:00 p.m. Documents were reviewed. The inspection concluded on the afternoon of May 12, 2010, with a closing conference.

Inspection Photos

The Pentagon
RCRA-C Photos
By: Justin Young



RCRA-C 1: Universal waste lamps in MAA (Main Storage Area)



RCRA-C 2: Universal waste lamps in MAA (Main Storage Area)

The Pentagon
RCRA-C Photos
By: Justin Young



RCRA-C 3: Universal waste lamps in MAA (Main Storage Area)



RCRA-C 4: Universal waste lamps in MAA (Main Storage Area)

The Pentagon
RCRA-C Photos
By: Justin Young

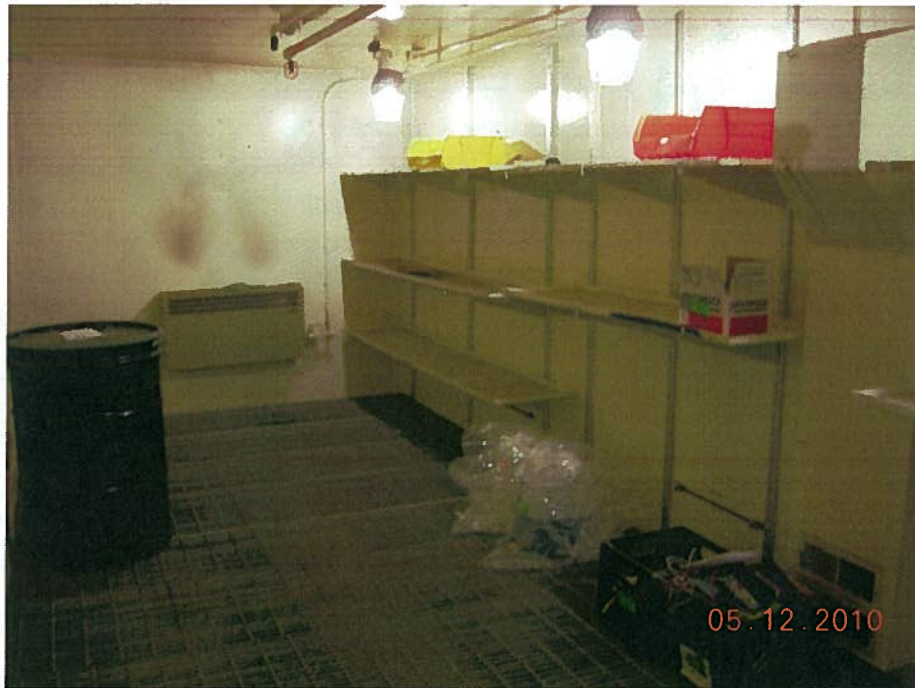


RCRA-C 5: Universal waste lamps in MAA (Main Storage Area)



RCRA-C 6: Universal waste batteries in MAA (Main Storage Area)

The Pentagon
RCRA-C Photos
By: Justin Young

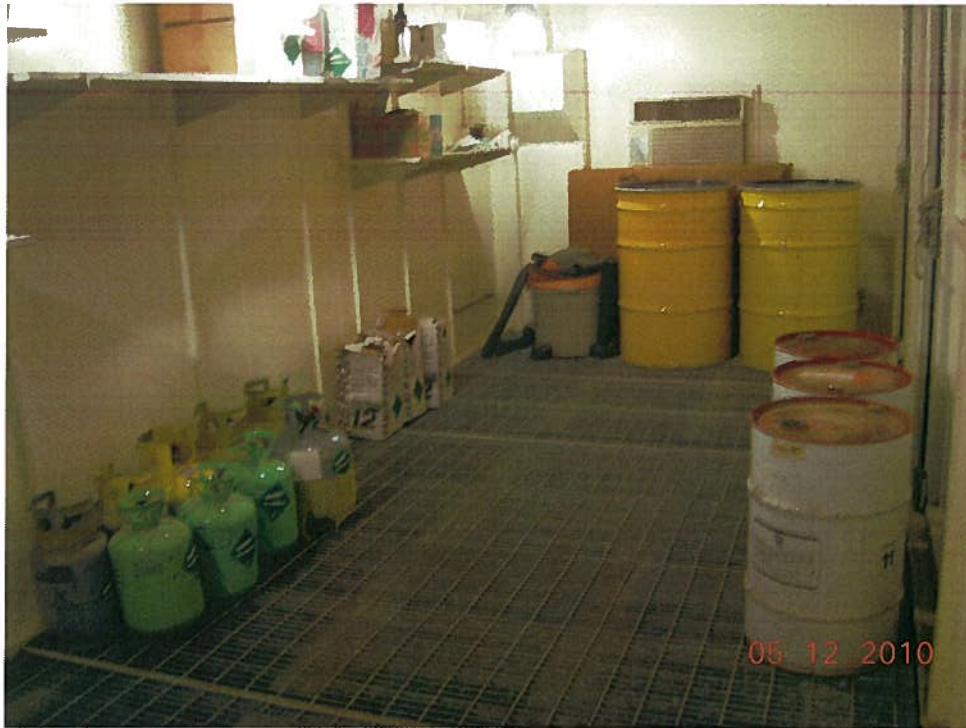


RCRA-C 7: Hazardous waste storage Bay#1



RCRA-C 8: Hazardous waste storage Bay#1

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RCRA-C Photos
By: Justin Young



RCRA-C 9: Hazardous waste storage Bay#2

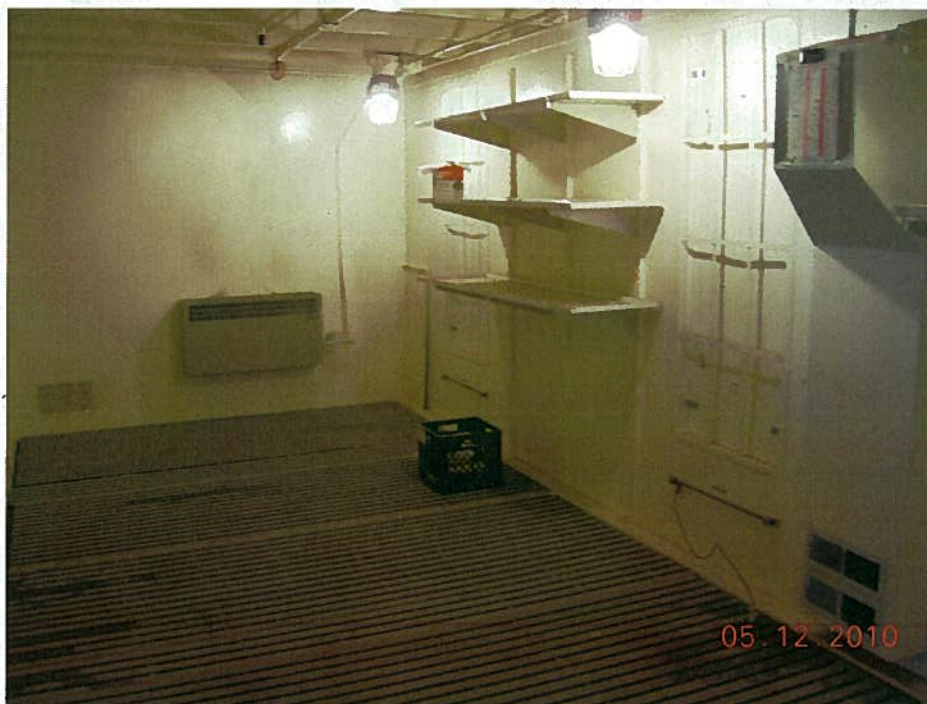


RCRA-C 10: Hazardous waste storage Bay#2

The Pentagon
RCRA-C Photos
By: Justin Young



RCRA-C 11: Hazardous waste storage Bay#3



RCRA-C 12: Hazardous waste storage Bay#3



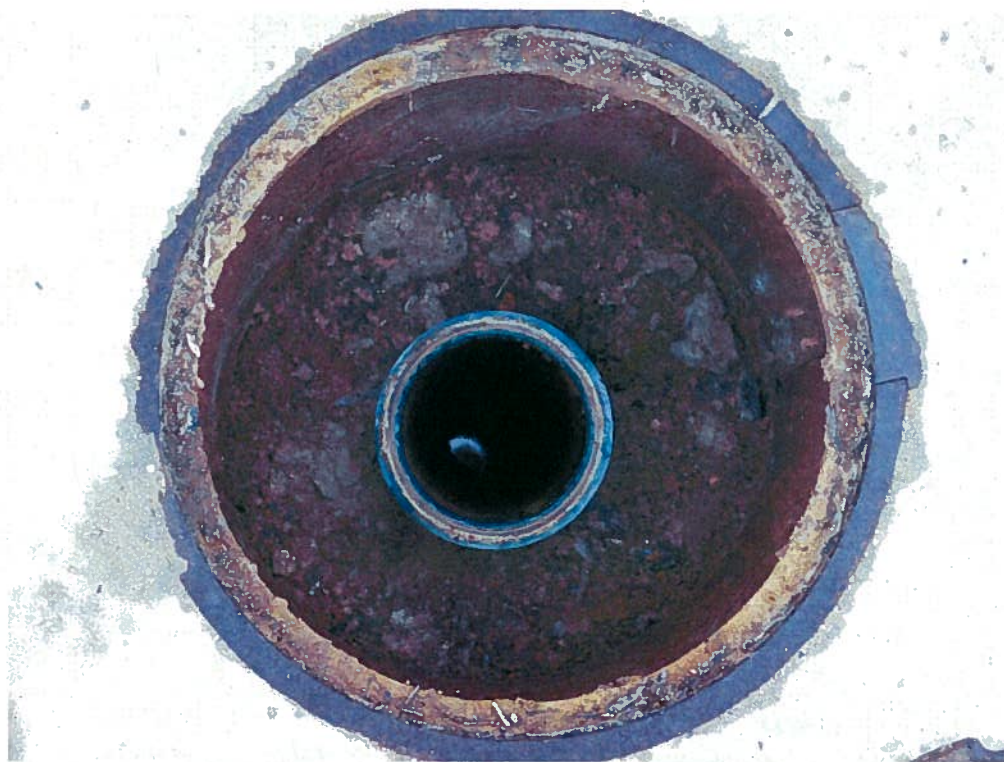
Photograph UST-1 - Fill Pump System



Photograph UST-2 - Fill Pump System Control Panel



Photograph UST-3 - PU-2 Fill Pipe Sump



Photograph UST-4 - PU-2 Open Fill Pipe



Photograph UST-5 - PU-3 Fill Pipe Sump



Photograph UST-6 - PU-3 Open Fill Pipe



Photograph UST-7 - PU-2 Fill Pump System Level Monitor Sump (south)



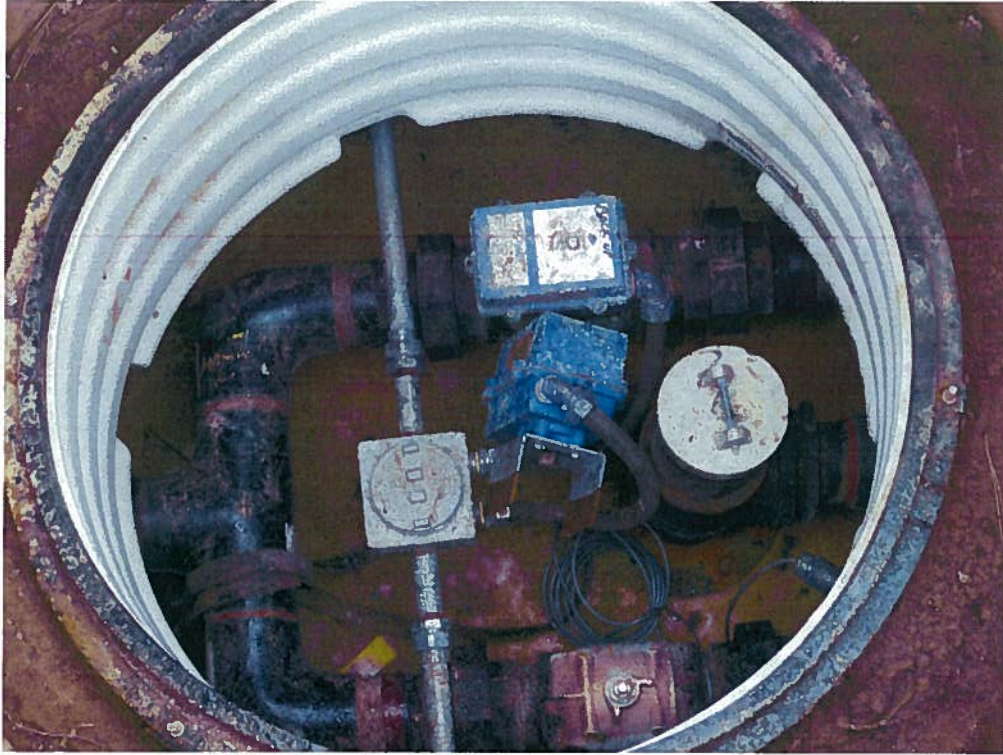
Photograph UST-8 - PU-2 Fill Pump System Level Monitor Sump (north)



Photograph UST-9 - PU-3 Fill Pump System Level Monitor Sump (south)



Photograph UST-10 - PU-3 Fill Pump System Level Monitor Sump (north)



Photograph UST-11 - PU-2 Tank Access Sump



Photograph UST-12 - PU-3 Tank Access Sump



Photograph UST-13 - PU-2 ATG Level Probe Sump



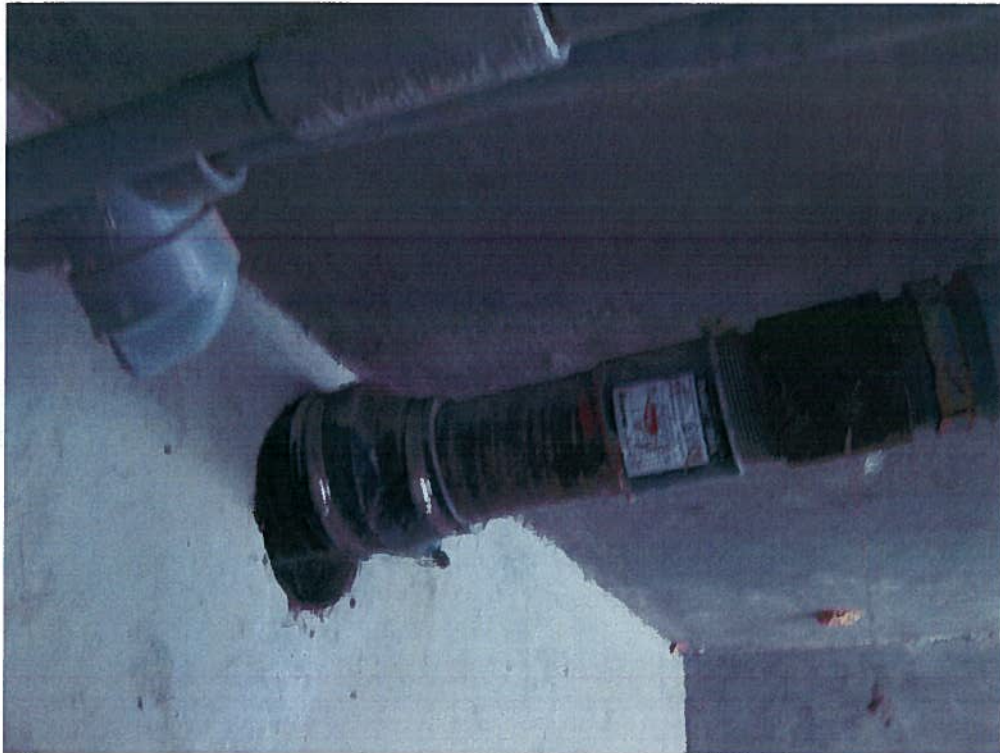
Photograph UST-14 - PU-3 ATG Level Probe Sump



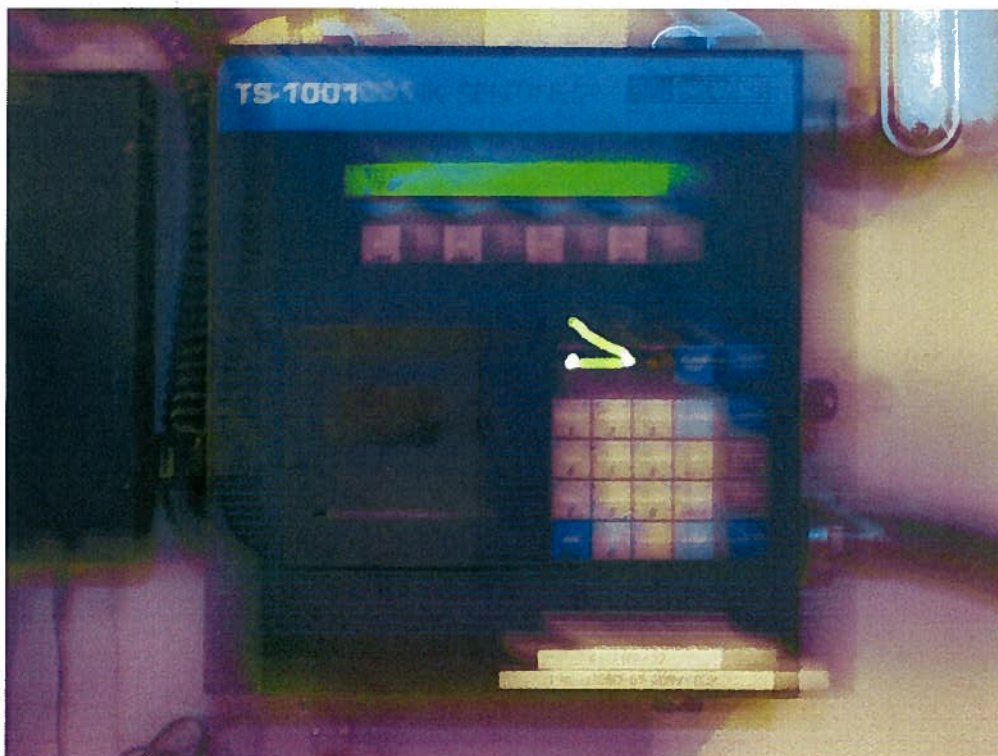
Photograph UST-15 - PU-2 Interstitial Probe Sump



Photograph UST-16 - PU-3 Interstitial Probe Sump



Photograph UST-17 - Fill Pump System Double Wall FRP Fill Pipe



Photograph UST-18 - ATG System Monitor



Photograph UST-19 - ATG System Operating Manual

The Pentagon
CWA Photographs
By: Joe Reyna III



CWA 1: This photograph depicts the rear of the Incineration Plant. An unknown pipe drain was observed discharging, outside the compressor room, toward the storm drain. Incinerator ash was also observed near the storm drain.



CWA 2: The unknown pipe was discharging liquid toward the storm drain.

The Pentagon
CWA Photographs
By: Joe Reyna III



CWA 3: This photograph depicts a close-up of the unknown pipe.



CWA 4: The manhole cover to the ash quench water pit located next to the unknown pipe.

The Pentagon
CWA Photographs
By: Joe Reyna III



CWA 5: This photograph depicts another view of the discharge route of the unknown pipe to the storm drain.



CWA 6: This photograph depicts white incinerator ash spilled on to ground outside of the Incineration Plant.

The Pentagon
CWA Photographs
By: Joe Reyna III



CWA 7: This photograph depicts ash bins with no covers.



CWA 8: This photograph depicts the inside of one of the ash bins.

The Pentagon
CWA Photographs
By: Joe Reyna III



CWA 9: This photograph depicts white incinerator ash near a storm drain.



CWA 10: This photograph depicts an alternate view of the ash near the storm drain. The ash bin storage area is in the background.



Photo No. SPCC 1 – View of HRP Unloading Area

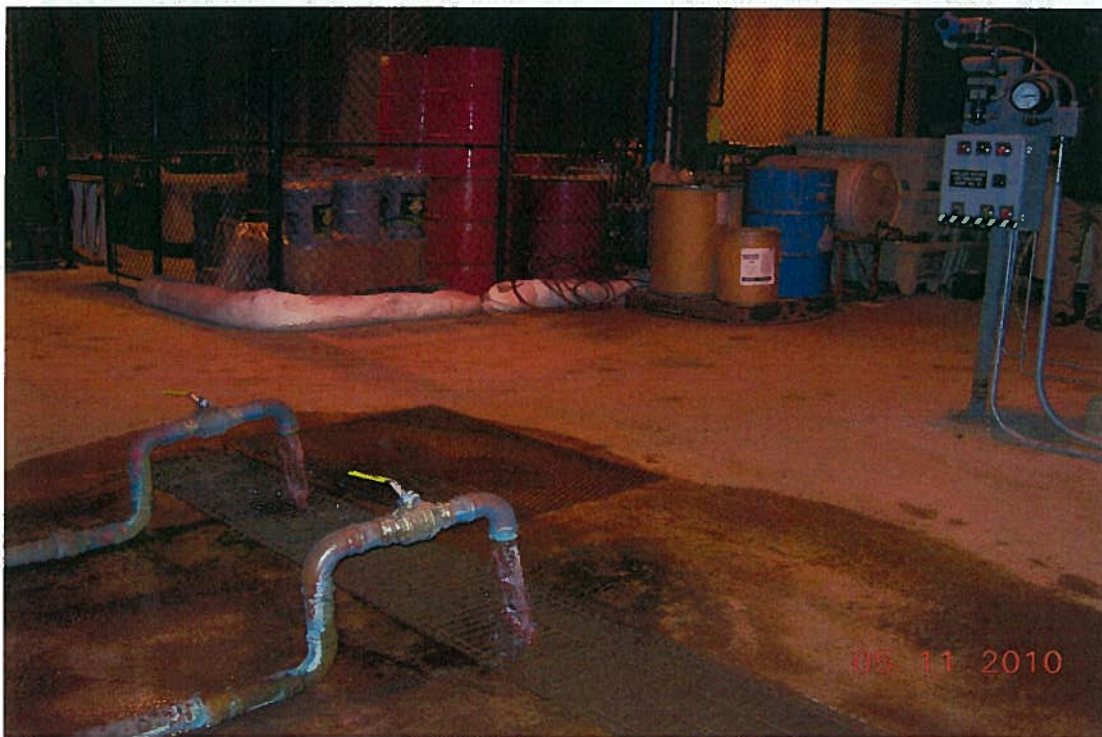


Photo SPCC No. 2 – View of PHRP Basement HS Storage

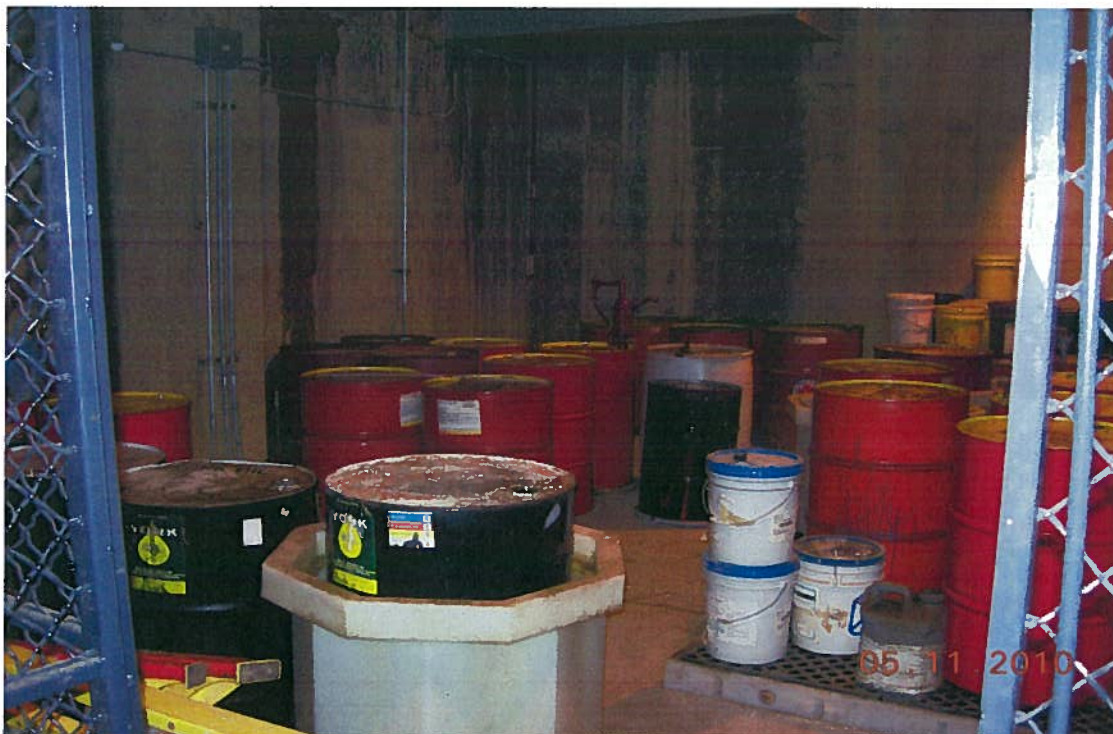


Photo No. SPCC 3 - View of containers at PHRP Basement HS Storage

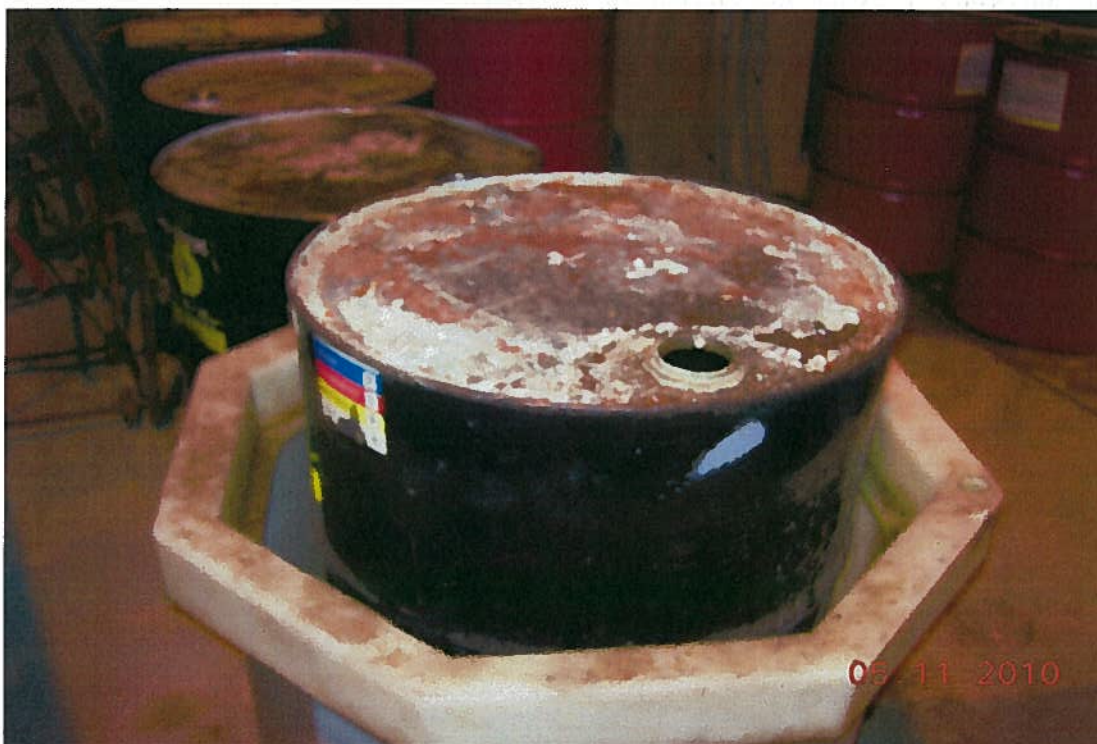


Photo No. SPCC 4 - Open black metal 55-gallon container at PHRP Basement HS Storage

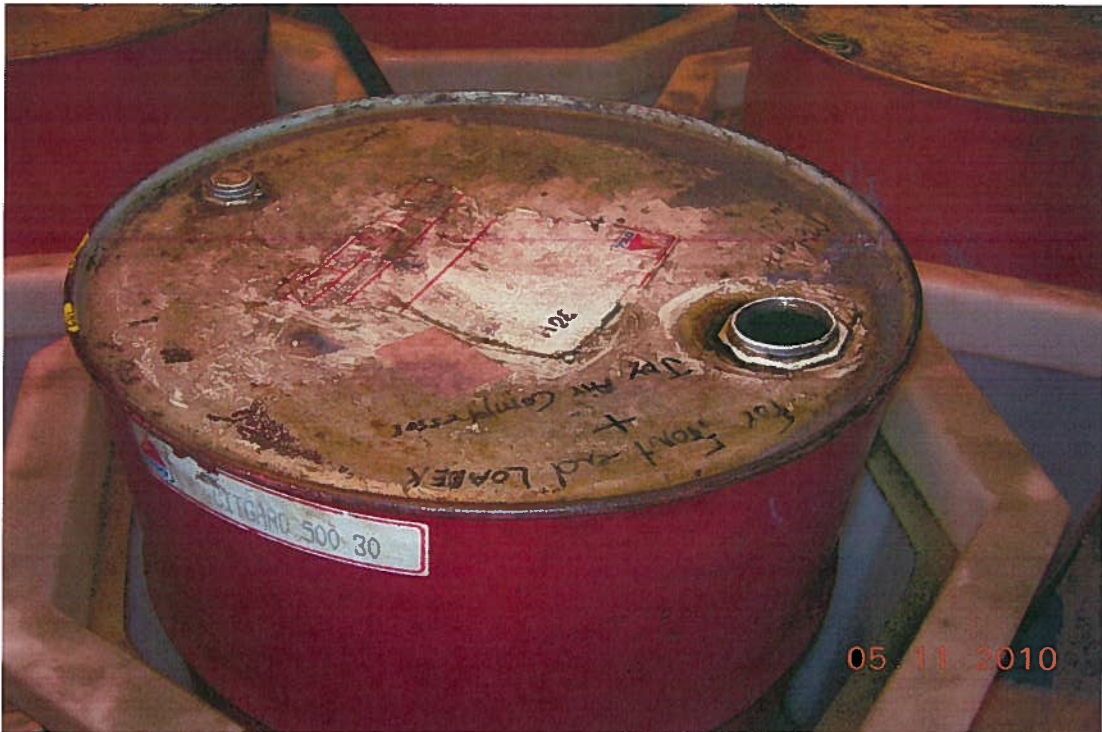


Photo No. SPCC 5 – Open red metal 55-gallon container at PHRP Basement HS Storage



Photo No. SPCC 6 – Battery stored at the Open red metal 55-gallon container at PHRP Basement HS Storage

